Reusing Model Architectures and Designs

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Overview

Transfer learning with the AlexNet and Densenet models

Reusing model architectures while still training from scratch

Fine-tuning models built from similar datasets

Transfer Learning Scenarios

How similar are the old and new datasets?

How much new training data is available?

	Different	Similar
Lots	• Re-use architecture • Re-calculate model weights • Re-train from scratch	• Re-use architecture • Fine-tune model weights • Fine-tune all layers
Little	• Re-use architecture • Fine-tune model weights • Fit classifier on initial layers	• Re-use architecture • Fine-tune model weights • Fine-tune only final layers

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Training from Scratch

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Fine-tuning All Layers

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Demo

Re-use model architecture while training it entirely from scratch

Demo

Fine-tuning all layers of a pre-trained model while starting from original pre-trained weights

Demo

Freeing up cloud resources

Summary

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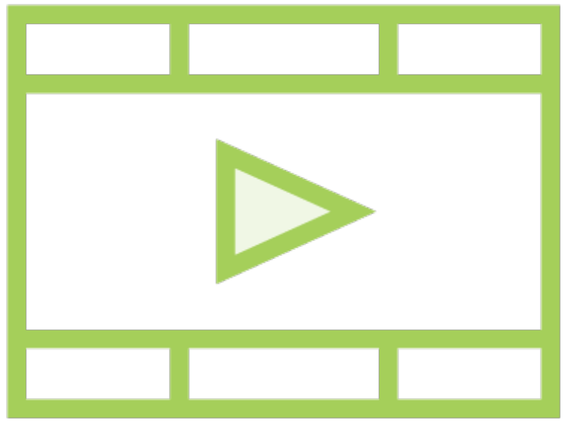

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